

Remarks:

In the last Office Action of the parent application for the present continuation application, the Examiner rejected claims 13-14 and 16 (now claims 1-2 and 4 of the present application) under 35 U.S.C. 102(b) as being anticipated by Canadian Patent Application No. 2,262,912 to Richardson. In particular, the Examiner stated that Richardson discloses an “illuminating system [that] is able to be quickly connected to the frame and to be interchanged with other stages containing other illumination means.” (September 25, 2003, Office Action, p. 3). Applicant respectfully disagrees.

Richardson discloses a modular stage (100) that is connected to the microscope via a plug connector located at (112), “which connects the stage module wiring to wiring buried in the base of the frame of the microscope 114.” (Richardson, lines 154-56). The modular stage (100) includes a glass slide (107) on which an object (108) to be magnified may be placed; an optic(s) (102); for magnifying the object (108); a control potentiometer (104); a diffuser (106); a printed circuit board (103); and an LED (101). The purpose of the modular stages in Richardson is so that “brightfield, darkfield, or other forms of stage can be used with the field microscope.” (Richardson, lines 156-58). As best illustrated in Figs. 1 and 2, the stage module is completely removed from the upper portion of the microscope and replaced with a different stage module. Therefore, the entire stage module (100) is disconnected from the microscope at (112). The LED (101) is not separately removed from the stage (100).

In contrast, the present invention discloses a light source assembly that may be removed from the stand and replaced with a new light source assembly. The present invention requires only the light source assembly, i.e., the printed circuit board and the LEDs, to be removed from the microscope stand. The purpose of providing a removable and replaceable light source assembly is for when the LEDs burn out.

The present invention is a significant advantage over Richardson. Richardson requires the entire microscope stage, including the optics, diffuser, potentiometer, etc., to be removed along with the printed circuit board and LED. In contrast, only the light source assembly, i.e., the printed circuit board and LEDs, of the present invention need be removed from the stand. Because the light source assembly is significantly smaller and less bulkier than the stand on which the light source assembly rests, removal and replacement of the light source assembly is relatively simple. Therefore, applicant

respectfully submits that Richardson does not disclose the limitation of a removable and replaceable light source assembly, as presently claimed in independent claim 1.

The Examiner also rejected claim 13 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,313,943 to Ikado, et al. In particular, the Examiner stated that Ikado discloses a removable and replaceable illumination system as noted in column 5 of Ikado and as illustrated in Figs. 4a and 4b. Applicant respectfully disagrees that Ikado discloses such.

In column 5, Ikado discusses light source arrangements that illuminate in multiple directions for clearly capturing the entire shape of underwater microorganisms. Ikado discloses two arrangements, a dual linear arrangement and a dual arc arrangement, as illustrated in Figs. 4a and 4b. (Ikado, Col. 5, ll. 6-20). Ikado does not disclose or suggest that the light source arrangements are positioned on a printed circuit board that is removable and replaceable. Instead, Ikado refers to the light source arrangements as “examples” and notes Fig. 5 as an “embodiment of using a light source 18 arranged in a circle.” (Ikado, Col. 5, ll. 16-20). Therefore, Ikado does not disclose a light source assembly that is removable and replaceable, as currently claimed in independent claim 1.

The Examiner also rejected independent claim 19 (now claim 7) under 35 U.S.C. 103(a), citing the combination of WO 00/70687 to Waitl with Gurz, Brandorff, and Vennard. In particular, the Examiner argued that pp. 5-9 and Figs. 1-3 of Waitl disclose the feature of a circuit board supporting a plurality of LEDs, wherein the structure of the LEDs produces a highly-focused angle of illumination so that most of the light from the LEDs is projected upwardly, as currently claimed in presently-pending independent claims 7 and 12. Applicant respectfully submits that the Examiner has not proved his *prima facie* case of obviousness, and thus, independent claims 7 and 12 are non-obvious over the prior art references of record.

Three criteria must be satisfied in order to establish a *prima facie* case of obviousness: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine their teachings; (2) there must be a reasonable expectation of success of the combination; and (3) the prior art reference (or combination of references) must teach or suggest all the claim limitations. See MPEP §706.02(j), citing *In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991). Furthermore, “[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the

modification obvious unless the prior art suggested the desirability of the modification." *In re Fritch*, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992) (reversing an obviousness rejection where there was no suggestion to modify a prior art mower strip to make it entirely flexible as required by applicant's claims toward a flexible landscape edging strip); *see also In re Gordon*, 221 USPQ2d 1125, 1127 (Fed. Cir. 1984). Additionally, "if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP § 2143.01.

Applicant first submits that Waitl does not teach the limitation of *the structure of the LEDs* producing a highly-focused angle of illumination. Importantly, Waitl discloses a plurality of LEDs (10) mounted on a plate (1). An optics support plate (2) is provided above the LEDs, wherein the plate includes a plurality of light bundling optical devices (20), such as optical lenses or optical channels with reflecting side walls. Therefore, Waitl discloses LEDs that emit light which may then be focused using the optical channels.

In contrast, the LEDs of the present invention are themselves structured to produce the highly focused angle of illumination (see p. 5, ll. 15-21), without need for an optical channel. Applicant notes that the present application discloses an internally-reflective tube (56) than may be used if the microscope has an elongated lamp holder. However, such tube is not necessary to produce the highly focused angle of illumination. Therefore, the present invention provides a significant advantage over Waitl in that it can produce highly-focused light without need for any additional components, such as the optical channels required in Waitl.

Applicant also notes that the Examiner states that the purpose for combining Waitl with the above-cited prior art references of record is to reduce power consumption. However, Applicant submits that there is no reason to reduce battery consumption for the LEDs when used with the signaling device. The signaling device is such as may be used in automobiles. Because the automobile produces more than ample power in relation to the size and power consumption of the LEDs, Waitl is not concerned with reducing power consumption of the LEDs. In contrast, the microscope battery of the present invention is relatively small and produces relatively minimal power. Therefore, even slight decreases in the power consumption of the LEDs significantly increases the battery life. Therefore, Applicant submits that Waitl nor any other prior art reference of record

suggests the desirability of reducing power consumption by producing a highly-focused angle of illumination.

Applicant also submits that Waitl is non-analogous art with respect to the field of microscopes. As the Examiner is likely well-aware, the primary test for determining whether a prior art reference is properly analogous with respect to an invention is as follows:

- (1) whether the art is from the same field of endeavor, regardless of the problem addressed; and
- (2) if the reference is not within the same field of the inventor's endeavor, whether the reference is still reasonably pertinent to the particular problem with which the inventor is involved. *In re Clay*, 23 USPQ2d 1058, 1060 (Fed. Cir. 1992).

Furthermore, an invention cannot be considered to be within the field of endeavor of a prior art reference merely because both relate to the same industry. *Id.* However, “[a] reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to the inventor's attention in considering his problem.” *Id.* at 1061. Patent examination is necessarily conducted by hindsight, with complete knowledge and benefit of the Patent Owner's invention as a guide. *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992). For this reason, it is necessary to consider the “reality of the circumstances” in deciding in which fields a person of ordinary skill in the art would reasonably be expected to look for the solution to the problem facing the inventor. *Id.* at 1447. Ultimately, a rejection based on non-analogous art cannot be sustained. *In re Clay*, 23 USPQ2d at 1061.

The test set forth in *In re Clay* was also tellingly applied, for example, in *In re Oetiker*, which is cited by and discussed in MPEP §2141.01(a) in the context of determining analoguousness in the mechanical arts. *In re Oetiker*, 977 F.2d at 1446. In *In re Oetiker*, an improvement was claimed to a stepless, earless metal clamp, with the improvement being a preassembly hook which serves to both maintain a preassembly condition of the clamp and to disengage automatically when the clamp is tightened. *Id.* at 1445. All claims were rejected over the combination of U.S. Patent No. 4,492,004 to Oetiker, which disclosed the unimproved clamp, and U.S. Patent No. 3,426,400 to Lauro, which disclosed a plastic hook and eye fastener for use in garments. *Id.* at 1445.

Oetiker argued during prosecution that Lauro's garment hook was non-analogous art in that a person of ordinary skill seeking to solve the problem facing Oetiker would not look to the garment art for the solution. *Id.* at 1445. The Examiner argued that because garments commonly use hooks for securement, a person faced with the problem of unreliable maintenance of the pre-assembly configuration of an assembly line metal hose clamp would look to the garment industry art. *Id.* at 1445. On Appeal, the Board held that Lauro was analogous art because both Lauro's and the Oetiker's inventions relate to "a hooking problem." *Id.* at 1445.

The Federal Circuit, however, disagreed, stating that it had not been shown that a person of ordinary skill seeking to solve the problem facing Oetiker would reasonably be expected or motivated to look to fasteners for garments. Furthermore:

The combination of elements from non-analogous sources, in a manner that reconstructs the Patent Owner's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge cannot come from the Patent Owner's invention itself. *Id.* at 1446.

Applying the criteria of *In re Clay* and the teachings of *In re Oetiker*, Waitl is not in the same field of endeavor as the present invention. The present invention relates to microscopes, while Waitl relates to signaling devices. Although both Waitl and the present invention include an LED as a component, as the Examiner is likely aware, LEDs are common in many electrical items. Therefore, for every item containing an LED to be analogous art with respect to microscopes defies the rationale and purpose for the requirement that combined references for an obviousness rejection must be analogous.

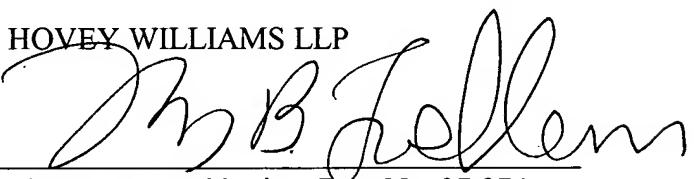
Further, Waitl is not concerned with the problem which applicant's invention addresses. As previously noted, applicant's highly-focused LEDs reduce power consumption. However, there is no need to reduce power consumption using Waitl's LEDs, which are used as signaling devices in conjunction with items providing large amounts of power. Instead, Waitl provides the reflective optics for the purpose of focusing emitted light. In contrast, applicant's present invention is able to focus emitted light without need for the reflective optics disclosed in Waitl.

The remaining claims all depend directly or indirectly from independent claims 1, 7, and 12 and thus, should be in a condition for allowance.

In view of these preliminary remarks, applicant respectfully submits that claims 1-17 of the present application are in allowable condition and requests a Notice of Allowance. In the event of further questions, the Examiner is urged to call the undersigned. Any additional fee which might be due in connection with this application should be applied against our Deposit Account No. 19-0522.

Respectfully submitted,

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